CHAPTER 73-1 INTRODUCTION

73-1.1 BACKGROUND

A. The Maintenance and Improvement (M&I) sub-activity has been level funded for several years while the M&I eligible gross square meters continues to grow. This has resulted in reduced and/or deferred maintenance. Reducing the level on maintenance results in deterioration of real property and an increase in cost and need for future repairs. In order to identify the extent of the problem, the IHS needs to improve on the reporting mechanism to identify the backlog of essential maintenance and repair (BEMAR). Once the BEMAR has been identified, correction of the deficiencies becomes an integral part of the planning process. Facilities managers will then have a concise list of specific actions and alternative methods for restoring and maintaining the physical plant and functional adequacy of each installation. Projects can be developed to systematically correct the deficiencies. The Facilities Engineering Deficiency System (FEDS) is a vehicle used to store the data base generated from facilities condition surveys referred to in IHS as deep look surveys.

B. Identified FEDS deficiencies are divided into categories to allow arranging the deficiencies into workable groups. Each category in turn is assigned a code for identification in the FEDS data base.

The following categories and codes are utilized:

01 - PATIENT CARE	02 - LIFE SAFETY COMPLIANCE
03 - ~~OCCUPATIONAL~~ **GENERAL** SAFETY	04 - ENVIRONMENTAL COMPLIANCE
05 - PROGRAM IMPROVEMENTS	06 - FUTURE
07 - HANDICAPPED COMPLIANCE	08 - ENERGY CONSERVATION

09 - 10 FUTURE
10 - BEMAR ARCHTECTURAL
11 - BEMAR STRUCTURAL
12 - BEMAR MECHANICAL
13 - BEMAR ELECTRICAL
14 - FUTURE
15 - BEMAR GROUNDS
16 - BEMAR QUARTERS

73-1.2 PURPOSE

The purpose of a FEDS database is to manage information on the current conditions at a facility to:

A. Compare an installation's condition and functional performance to other IHS installations;

B. Define capital repair and replacement projects in order to eliminate the BEMAR;

C. Develop cost estimates for planning projects;

D. Restore functionally obsolete installations to a usable condition;

E. Eliminate conditions that are either potentially damaging to the property or present life safety hazards;

F. Identify energy conservation measures required to meet Public Law requirements;

G. Analyze each facility for physical condition, economic life expectancy, deficiency corrective action, project completion time span, and estimated cost of correction;

H. Determine facilities assets and redistribution of existing resources;

I. Prepare a program plan that provides justification for changes in location, consolidation, and priorities, or provide new solutions;

J. Identify possibilities of additional resources; and

K. Better forecast the facilities budget.

73-1.3 SCOPE

Identified deficiencies typically are:

A. Premature systems deterioration from lack of maintenance to:

(1) Exterior and interior finishes such as paint, flooring, and roof systems

(2) Electrical and mechanical equipment such as ventilation and exhaust fan bearings, electrical windings, and plumbing.

B. Degradation of environmental quality due to lack of:

(1) Filters or improperly-sized replacement filters in air distribution systems;

(2) Site monitoring of underground fuel storage tanks; and

(3) Backflow preventers to protect public and domestic water systems, vacuum breakers on hose bibs, lab sinks, film processors, and similar equipment.

C. Change in program requirements resulting from:

(1) Lack of adequate isolation rooms;

(2) Change in use of space function; and

(3) Lack of space for storage, proper maintenance access, or new electronic equipment.

D. Compliance with Public Law requirements regarding;

(1) Handicap accessibility,

(2) Environmental, and

(3) Energy conservation.

E. Design/construction oversights resulting in a lack of:

(1) Outside air intakes for medical/dental compressors or heating equipment combustion air; and

(2) Space to access equipment for maintenance.

F. Energy inefficiencies such as:

(1) Inadequate cooling of electrical and mechanical equipment,

(2) No temperature setback mechanisms, and

(3) Poorly operating ventilation systems.

73-1.4 IMPLEMENTATION

A. After a deep look survey report is received in the Area facilities office the information is entered into the FEDS data base. This database is then utilized by facilities managers as a means of generating projects for their annual Facilities Engineering Program Plan (FEPP). Each IHS Area office in turn consolidates all the individual service unit FEPP's and prioritize the total workload to determine the Area's construction workload for each fiscal year. Approval of the FEPP's by each respective Associate Area Director OEHE results in funding of those projects that are most critical and which are within each Area's annual funding allocation. Corrective actions on the FEDS issues is then carried out.

B. The overall database is utilized by management to determine priorities and weigh the aggregate cost of correcting individual deficiencies versus replacement of any particular installation. Corrective actions and their cost estimates will assist program managers and facilities managers in making determinations about their installation.

73-1.5 BENEFITS

A. The following benefits result from the FEDS program:

(1) Facilities accreditation requirements are met,

(2) Building systems are effectively evaluated and corrective actions lead to replacement and/or assist in more effective maintenance and operation,

(3) Life expectancy of building systems is prolonged,

(4) Work environment is improved,

(5) Ultimately customers are better satisfied with services provided at the facility, and

(6) Compliance with Public Law is achieved.

B. Changing technology results in the need for installation of new sophisticated medical and non-medical personal property equipment in our facilities. If real property mechanical and electrical systems are not upgraded to meet the requirements of the new personal property equipment, serious deficiencies could lead to ineffective utilization of the new equipment. Also, the original design of the facility and changes in program requirements over the course of time frequently do not allow for increase in space. As a result the existing facility is burdened with ineffective flow of operations.

CHAPTER 73-2 DEFINITIONS

DEEP LOOK - An in-depth evaluation of the physical condition and functional performance of the real property (i.e., structure, appurtenances), building service equipment, utilities, grounds, program space utilization conducted every five years by a team of professionals from Engineering Services Dallas or Seattle or an Architect/Engineer firm hired by them. Identified deficiencies are limited to those estimated to cost over $1,000 to correct. Deficiencies costing less than $1,000 will not be entered into the FEDS data base but will be maintained at the service unit level for local correction through local projects.

INSPECTION - The critical examination of a system, components of a system or individual equipment items to determine its conformance to applicable quality standards or specifications of operation (e.g., elevator, boiler, cooling tower).

MAINTENANCE - Maintenance is work to keep a facility in a usable state or condition and in operation for its intended purpose. It includes construction performed to improve or increase the operation of the facility, or enhance the aesthetics.

INSTALLATION (FACILITY) - Separately located and defined real property that stands alone as an entity, a building or group of buildings, a structure and utility systems and/or the associated site (e.g. health center, clinic, hospital, quarters, or health center and quarters, hospital and quarters). Each defined facility or acreage is uniquely identified with a real property inventory number that identifies it from all other government installations. An installation consists of the land (acreage), together with improvements (utilities), structures (pump houses), and fixtures (fence, lighting posts) located thereon (including pre-fabricated movable structures, such as pre-fabricated (Butler) buildings, Quonset huts, and trailers (with or without undercarriages), and appurtenances thereto, excluding moveable machinery and equipment.

BUILDING SERVICE EQUIPMENT - This is equipment which is permanently installed in or attached to buildings or structures for the purpose of rendering such building or structure usable or habitable. The removal of such equipment would generally require major or significant repairs or improvements to place the area in which it was located in a usable

condition. Examples of building service equipment include the heating and cooling system (boilers, air handlers, control air compressors, piping, etc.), elevators, plumbing system (piping, sinks, toilets, etc.), and electrical system (lighting fixtures, electrical panels, receptacles, etc.).

ANNUAL GENERAL INSPECTION (AGI) - Surveys accomplished by each IHS Area office annually for the purpose of:

(1) Reviewing the status of FEDS entries in the latest data base printout,

(2) Providing consultive services for new additional recommendations,

(3) Reviewing problem areas or re-estimating deficiencies,

(4) Assessing any additional building that have been acquired since the last deep look, and

(5) Re-assessing buildings for recently developed problems.

FACILITY - See installation above

BACKLOG OF ESSENTIAL MAINTENANCE AND REPAIR (BEMAR) - This is a category of maintenance and repair type deficiencies that have repeatedly been deferred because of a lack of staffing or funds to implement corrective measures. This category excludes deficiencies resulting from lack of program space or proposed improvements to enhance the efficient operation of the facility.

DEFICIENCY - An existing item that is in poor physical condition, or does not exist, or does not comply with current minimum acceptable mandatory standards. Deficiencies include items that must be corrected to meet public law, regulatory provisions, and recognized engineering and management standards. Deficiencies are grouped by category in the FEDS database.

FACILITIES WORK ESTIMATION AND APPROVAL FORM (HHS 430) - This form is utilized to document deficiencies and provide narratives and recommended actions. The reverse side may be used as a bill of materials cost estimating sheet.

DEFICIENCY CODES - Deficiency codes are the numbers assigned to categorize deficiencies into workable groups. These codes are used to group the deficiencies in the FEDS database.

The following codes are utilized:

01 PATIENT CARE - Deficiencies in the patient's social environment such as inadequacy of; space to support services, closet and drawer space for storing personal property, an environment that fosters a positive self image, privacy to reflect sensitivity to patients' age, developmental levels, and clinical needs, activities to support the development and maintenance of the patient's interests, the appropriate number of patients per room, telephones for patient private conversations, furnishings and equipment suitable to the population served appropriate to the length of stay for therapeutic reasons.

02 LIFE SAFETY COMPLIANCE - Deficiencies in the features of fire protection requirements of the structure which result in a lack of full compliance with the Life Safety Code, NFPA 101. For example; inadequate fire barriers, smoke barriers, means of egress, door ratings, and fire protection equipment requirements.

03 OCCUPATIONAL SAFETY - Deficiencies generated from the lack of compliance with the Occupational Safety and Health Act (OSHA).

04 ENVIRONMENTAL COMPLIANCE - Deficiencies in environmental compliance with of Federal, State or Local environmental laws and regulations. For example; underground storage tank, boiler and incinerator emissions, sewage effluent, asbestos, radon, disposal of hazardous wastes, and industrial hygiene.

05 PROGRAM IMPROVEMENTS - Modifications or enhancements to existing workflow patterns through improvements to the structure to increase the efficiency of the delivery of health care. This is accomplished through; expansion of program functions within existing space through re-alignment of existing functions, erection of additional space to compensate for displaced existing functions and/or erection of additional space to directly expand programs, and modifications required as a direct result of installation of additional or replacement personal property equipment.

07 HANDICAPPED COMPLIANCE - Deficiencies resulting from non-compliance with the American with Disabilities Act (ADA). For example; handicapped accessibility in the parking area, building entrances, toilets, drinking fountains, elevators, telephones, fire alarm, and others.

08 ENERGY CONSERVATION - Energy conservation opportunities (improvements) to the structure or building service equipment systems that has a life cycle cost effectiveness and a payback of less than ten years.

11 BEMAR STRUCTURAL - Structural items that should be replaced or repaired on a recurring basis due to normal wear and tear to maintain the real property in good operating condition. For example; doors, ceilings, floor coverings, windows, tuckpointing, waterproofing, painting, roofing, and others.

12 BEMAR MECHANICAL - Real property mechanical systems or individual components of the systems that should be replaced or repaired on a recurring basis due to normal wear and tear to maintain the real property in good operating condition. For example; HVAC central/packaged units, pneumatic controls, exhaust fans, chillers, cooling towers, plumbing, fuel, potable water, fire alarm, lift stations, fire sprinklers, and automatic extinguishing hoods.

13 BEMAR ELECTRICAL - Real property electrical normal and emergency power systems or individual components of the systems that should be replaced or repaired on a recurring basis due to normal wear and tear to maintain the real property in good operating condition. For example; transformers, emergency generators, switchgear, wiring, main breakers, and others.

15 BEMAR GROUNDS - Real property grounds components that should be replaced or repaired on a recurring basis due to normal wear and tear to maintain the real property in good operating condition. For example; trees, sod, erosion, lawn sprinklers, parking, bridges, cattle crossings, fences, and roadways.

16 BEMAR QUARTERS - Real and personal property structural, mechanical, electrical and grounds components associated with personnel quarters that should be replaced or repaired on a recurring basis due to normal wear and tear to maintain the real property in good operating condition.

PART 73 - FACILITIES ENGINEERING DEFICIENCY SYSTEM